A Critical Study of the Coaxial Transmission Line Utilizing Conductors of Both Circular and Square Cross Section

By means of various conformal transformations we calculate the characteristic impedance of the coaxial line consisting of both square and circular cylinders. We also employ a complex potential function to match the boundary condition on one conductor completely and on either 12 points or 8 points on the other conductor to obtain exceptionally accurate results. Our present results are believed to be considerably better than our previous results quoted by Gunston.

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